

GENERAL REMARKS

This sixty-fourth volume of the *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans* considers human papillomaviruses (HPVs).

Interest in the carcinogenicity of HPV first arose from studies of cervical cancer. Cervix cancer is the second most common cancer in women world-wide and there are about 400,000 new cases and 200,000 deaths from cervical cancer every year. It would probably be even more common if effective screening procedures for precursor lesions did not exist. HPV-16 was first isolated and characterized in 1983 from a cervical cancer specimen. To date, more than 70 HPV types have been identified and over 15 of them have been reported in cervical cancer biopsies.

These agents are unique in the *IARC Monographs* series for wealth of both epidemiological and mechanistic investigations. More than 100 epidemiological case-control or cohort studies have been reported and several more are still underway. In addition, a great deal of information is available on the molecular mechanisms employed by the virus and the host, and HPV is probably the best understood of any putative human carcinogen at the mechanistic level.

The findings in cervical cancer have led to studies of HPV at other anogenital sites and more remote sites. Of particular note are studies in skin cancer, for which a different range of types have been found. In addition, a number of closely related papillomaviruses infect animals and there is a large experimental literature for these viruses.

Improved screening, and ultimately vaccination, offer prospects for the eventual elimination of this cancer.